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SYNOPSIS OF THE NORTH AMERICAN HYPOCREACEAE, WITH DESCRIPTIONS OF THE SPECIES.

BY J. B. ELLIS AND B. M. EVERHART.

(Concluded.)

GEN. X, LASIONECTRIA, Sacc.—Perithecia hairy.

145. LASIONECTRIA POLIOSA, E. & E. Parasitic on *Diatrype platystoma*, Schw., Florida, January, 1886. W. W. Calkins, No. 138. Journ. Mycol. II, p. 39.

Perithecia scattered, membranaceous, orange red, ovate-globose, one sixth millim. in diam., sparsely clothed, except the papilliform ostiolum, with straight, spreading, hyaline, septate, glandular hairs, about equal in length to half the diameter of the perithecia; asci sessile, oblong-cylindrical, about 75 x 12 *u*; sporidia biseriate, oblong or subfusiform-oblong and subinequilateral, hyaline, uniseptate and slightly constricted at the septum, containing several nuclei irregularly placed, 18—22 x 7—8 *u*, ends rounded or subacute. The hairs which clothe the perithecia are at first about seven *u* thick, with the ends obtuse and a little swollen, but at length they become elongated and attenuated above. This must be nearly allied to *N. tephrothele*, Berk., but in the description of that species the perithecia are not described as hairy.

146. LASIONECTRIA LASIODERMA (Ell.) Am. Nat., February, 1886, p. 194. Parasitic on old *Valsa lutescens*, Ell., on dead limbs of *Quercus coccinea*, lying on the ground, Newfield, N. J., June, 1882.

Perithecia mostly single, subamorphous, obtuse-conic, broadly perforated above, about one fourth millim. high, shaggy with short, septate, obtuse, imperfectly-developed hairs, dull red when dry, pale orange when moist; asci cylindrical, 75—80 x 7—8 *u*; sporidia uniseriate, elliptical, hyaline, uniseptate, scarcely constricted, 11—12 x 4—5 *u*.

147. LASIONECTRIA REXIANA (Ell.) l. c. Parasitic on *Myxogasters (Chondrioderma spumarioides)*, Adirondack Mts.,N.Y., August, 1882. Dr. Geo. A. Rex.

Perithecia minute, less than one fourth millim. in diam., flesh-color, becoming darker, slightly compressed laterally, enveloped in white down, which forms little tufts, appearing under the lens like some minute, tufted, mucedinous growth; asci linear, 35—40 *u* long, evanescent; sporidia uniseriate, oblong, hyaline, 1—2-nucleate (becoming uniseptate?).

GEN. XI, GIBBERELLA, Sacc.—Perithecia superficial, smooth, bluish or violet.

148. GIBBERELLA PULICARIS (Fr.) S. M. II, p. 417.

Cæspitose, stroma cortical; perithecia crowded, superficial, purplish, at length collapsing or laterally compressed; asci oblong, sessile, 8-spored, 60—75 x 12—16 *u*; sporidia biseriate, ovate, elliptical or subpyriform, subobtuse, somewhat curved, 3-septate, pale yellowish, 18—20 x 6—8 *u*. The conidial stage is considered to be *Fusarium sambucinum*, Fckl., or *F. roseum*, Lk. This is quite a common species and is found on bark of dead limbs of various deciduous trees and on dead herbaceous stems—especially on dead stalks of *Zea Mays* and also on the grain.

149. GIBBERELLA SAUBINETII, Mont. Sacc. Syll. II, p. 554.

Perithecia gregarious, confluent-cæspitose and concrescent, coriaceo-membranaceous, verrucose, at length flaccid, plicate, ovoid, subcontracted at the base, bluish, 200—300 x 170—220 *u*, papillate; asci oblong-lanceolate, acuminate above, contracted at the base into a short, thick stipe, 8-spored, 60—76 x 10—12 *u*; sporidia uniseriate or subbiseriate, fusiform, curved or straight, subacute, 3-septate, but scarcely constricted, nearly hyaline, 18—24 x 4—5 *u*; conidial stage, *Fusarium roseum*, Lk. The characters of this species, as here given, are taken from Sacc. Sylloge. From the specimens at our command, we have always found it difficult to separate this from the preceding species.

GEN. XII, HYPONECTRIA, Sacc. Syll. II, p. 455.—Perithecia covered, otherwise as in *Nectria*.

150. HYPONECTRIA GOSSYPII (Schw.) Syn. Car., No. 207. On dead capsules of cotton plant, Carolina (Schweinitz).

Scattered, rather soft, immersed, perithecia globose, purplish flesh-color; ostiolum elongated to the surface and discharging gelatinous matter. The minute perithecia are deeply sunk in the substance of the immature capsules so as not to be seen unless the capsule is cut open, but, through the elongated ostiola, a gelatinous substance is discharged, which hardens on the surface of the capsule and gives it a purplish color. In the mature specimens the surface of the capsules is granulose or papillose from the subjacent perithecia. We have seen no specimens of this species, but we have received from Prof. F. L. Scribner a *Fusarium* on capsules of cotton from South Carolina, which may be the conidial stage.

GEN. XIII, SPHÆROSTILBE, Tul. Carp. III, p. 103.—Perithecia associated with or growing at the base of the conidiophorous fungi *(Stilbum sp.)*, otherwise as *Nectria.*

151. SPHÆROSTILBE FLAMMEA, Tul. l. c.

Perithecia globose, bright red, nearly smooth, crowded on and near the conidiophorous stroma *(Atractium flammeum,* B.&Rav.) ; asci obovate-oblong, 8-spored; sporidia ovate, obtuse, 1-septate, hyaline, slightly constricted, 12—16 x 5—6 *u.* The conidial fungus, as represented in Rav. Fungi Car. V, 86, has the stromata at first narrow-conical, becoming finally flattened above and subpezizoid. The conidia linear-lanceolate, very large (80—100 x 6½ *u*), a little curved, 6—9-septate, hyaline, with a tinge of rose color. On maple bark, Carolina (Ravenel) ; on *Salix,* Louisiana, Langlois, No. 377. Berkeley, in Grev. IV, p. 47, adds: "There is a very distinct species on *Magnolia glauca,* Car. Inf., No. 5005 *(Atractium pallidum,* B. & C.), with short, fusiform spores 13 *u* long, with the endochrome retracted to either end."

152. SPHÆROSTILBE COCCOPHILA, Tul. l. c.

Perithecia numerous, on and near the conidiophorous stromata, very small, globose, obtuse, minutely papillate, very smooth, bright red, often 4—5 together, collapsing when old; asci linear, 60—80 x 6½ *u*; sporidia oblique, 1-seriate, ovate, 10 x 5 *u*, 1-septate, subhyaline, slightly constricted. The conidial stage *(Microcera coccophila,* Desm., which has been sent from Florida by Dr. Martin and collected in Carolina by Mr. Ravenel (F. Am., 286), has the stroma arising from various species of dead bark lice. It is red, obtuse and about two millim. high. The conidia are linear-lanceolate, 5—7-septate and 55—65 x 5—6 *u,* nearly hyaline.

153. SPHÆROSTILBE GRACILIPES, Tul. l. c.

Perithecia collected at the base of the stilbum, small (one third millim.), red, light pruinose, fading out; asci cylindric-clavate; sporidia uniseriate, ovoid, 12—16 x 4½—6 *u.* The conidiophorous fungus *(Stilbum corynoides,* E.&E.) has the stem slender,gray,becoming nearly black,¼—½ cm. long, head globose ¼—½ millim.), orange-yellow, becoming fuscous; conidia oblong-elliptical, hyaline, 5—6 x 1½ *u.* On *Hibiscus, Carya, Melia* and *Platanus,* Carolina (Curtis and Ravenel) ; on *Melia,* Louisiana (Langlois).

154. SPHÆROSTILBE CINNABARINA, Tul. l. c.

Perithecia growing at the base of the conidiophorous stroma *(Stilbum cinnabarinum,* Mont.), few, sessile, globose, scarcely papillate, very smooth, orange-red, finally collapsing partially; asci clavate-oblong, 80x13—16 *u*; sporidia biseriate, ovate-oblong, 22—26x7 *u*, plurinucleate; conidial stroma bacillary, clavate above, red, conidia ovoid, small, 3½ x 1½ *u.* On trunks of *Carya, Morus* and *Rhus,* Carolina (Ravenel), Louisiana (Hale).

GEN. XIV, MELANOSPORA, Ca.—Perithecia simple, ostiolum subulate-rostrate, often divided and brush-like (penicellate) at the tip; sporidia fuscous, distinguished from *Ceratostoma* by the soft texture of the perithecia.

155. MELANOSPORA LAGENARIA (Pers.) On the hymenium of some old *Polyporus*, Adirondack Mts., N. Y. Peck, in 27th Rep. N. Y. State Mus., p. 110.

Perithecia scattered or gregarious, emergent at length and bare, sphæroid or subovoid, two fifths millim., rugulose, at first light tawny-yellow, finally liver-color and then black; beak straight or flexuous, attenuated above, same color as perithecium and many times longer; asci pedicellate, broad-clavate, 35—40 x 12—14 *u*, 8-spored (also 4-spored, sec. De Not) ; sporidia in three series above, ellipsoid, attenuated at each end, simple, hyaline, becoming subfuscous, 11—12 x 6 *u*. The foregoing is from Sacc. Syll. Prof. Peck says: "Asci very broad, delicate, fugacious; spores crowded, simple, elliptical, colored, 12—13 x 7½ *u*." He also adds: "The spores are sometimes found adhering in a mass to the apex of the long, slender ostiolum. The subicular tomentum is present in some of the specimens, and there is sometimes a hairy appearance to the perithecia, which seems to be due to this tomentum or to some mucedinous growth."

GEN. XV, ACROSPERMUM, Tode.—Perithecia elongated or clavate, carnose or somewhat of a horn-like consistency; sporidia filiform.

156. ACROSPERMUM COMPRESSUM, Tode. On the dried stems of various herbaceous plants. N. A. F., No. 1318.

Perithecia solitary or subcæspitose, sessile, club shaped, attenuated above and generally compressed, pale at first, finally dark or olive-black, shining, smooth at first, becoming longitudinally subsulcate, 1—3 millim. high; asci filiform, very long (130—150 x 3—6 *u*), 8-spored; sporidia packed side by side, filiform, pale, yellowish-hyaline, 90—100 x ¾—1 *u*; paraphyses slender."

157. ACROSPERMUM VIRIDULUM, B. & C. Grev. IV, p. 161. On decayed herbaceous stems, So. Car. (Revenel). On fallen pear leaves and on fallen hickory limb, New Jersey (Ellis). N. A. F., 857. Also on white oak leaves, Texas (Ravenel, 166).

Perithecia scattered, ovate, one third millim. high, abruptly contracted below into a short stipe-like base, obtuse above, greenish-cinereous, subfurfuraceous; asci linear, 150—200 x 5—6 *u*; sporidia filiform, hyaline or slightly yellowish, about as long as the asci. The specimens on decaying hickory limb have the asci narrower (3½—4 *u*), but do not appear to differ otherwise.

158. ACROSPERMUM FOLIICOLUM, B. & C. Grev. IV, p. 161. Rav. Fung. Car. II, 65. On fallen leaves of elm and of *Celtis*, So. Car. Rav.

This in color and shape resembles *A. compressum*, but is shorter, mostly less than one millim. high, the asci also are longer (300—400 *u*) ; perithecia slightly pulverulent.

159. ACROSPERMUM RAVENELII, B. & C. Grev. l. c. On leaves of *Cercis*, *Vitis* and *Fraxinus*, So. Car. (Ravenel).

"Clavatum breve; ascis elongatis; sporidiis fiiliformibus, minute, short, slightly attenuated downwards, at length somewhat clavate; asci long, linear, flexuous; sporidia long, filiform." We have not seen this.

160. ACROSPERMUM CORRUGATUM, Ell., Bull. Torr. Bot. Club, VIII, p. 124. *A. fultum*, Harkness, Bull. Cal. Acad. Sci., February, 1884, p. 47. On weather-beaten wood, Pleasant Valley, Utah (alt., 6,000 ft.), S. J. Harkness. On dead leaves of *Eucalyptus*, San Francisco, Cala., Dr. H. W. Harkness.

Perithecia wedge-shaped or liguliform, 1—1½ millim. high, supported by buttress-like portions, which unite with the main body of the perithecium about half way up, strongly transversely-grooved on both sides above, black, compressed and truncate above, so that the apex is in shape like the edge of a chisel, the whole attached below to a brown, rooting mycelium; asci cylindric-clavate, tapering below to a long, slender pedicel, 400—500 x 8—9 *u*, with long, slender paraphyses; sporidia linear, 300—350 x 1½—2 *u*, separating into cylindrical, 3-septate joints which are 17—20 *u* long.

Since writing the foregoing, we have received from Rev. A. B. Langlois specimens of what we take to be

161. NECTRIA VULGARIS, Speg., found on stumps of orange trees at Pointe a' la Hache, La.; perithecia densely gregarious or cæspitose, yellow-orange, becoming darker; sporidia oblong-elliptical, 1-septate, 10—13 x 3—4 *u*.

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